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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/795,800 | 03/08/2004 | Jose Manuel Menendez | U 015063-5 | 7715 |
| 7590 | 12/01/2006 | | EXAMINER | |
| Ladas & Parry 26 West 61 Street New York, NY 10023 | | | WOLLSCHLAGER, JEFFREY MICHAEL | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1732 | |

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/795,800 | MENENDEZ ET AL. | |
| | Examiner Jeff Wollschlager | Art Unit 1732 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 September 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11-15 and 21-40 is/are pending in the application.
- 4a) Of the above claim(s) 11-15, 21-25, and 36-40 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 26-35 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION***Response to Amendment***

Applicant's amendment to the claims filed September 14, 2006 has been entered. Claims 1-10 and 16-20 are cancelled. Claims 26-40 are new. Newly submitted claims 36-40 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claims read on the originally restricted and non-elected invention of Group II, drawn to a tooling apparatus used in the manufacture of a monolithic composite.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 36-40 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Additionally, claims 11-15 and 21-25 remain withdrawn from consideration as being directed to a non-elected invention.

Claims 11-15 and 21-40 are pending. Claims 26-35 are under examination.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

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from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 26-35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 7 and 14 of U.S. Patent No. 6,508,909 in view of Morrison et al. (U.S. Patent 6,733,907; issued May 11, 2004) or Holsinger (U.S. Patent 6,245,275; issued June 12, 2001). Although the conflicting claims are not identical, they are not patentably distinct from each other.

Claim 1 of U.S. Patent 6,508,909 claims a process for manufacturing a structural member from pre-cured element composite materials and green stiffeners (preamble) comprising: providing at least a first subcomponent of composite material (steps (a) and (b)); providing at least a second subcomponent of composite material (step (c)); attaching an expansion compensating tool/angle pieces to the second subcomponent (step (d)); placing the second subcomponent with said tooling on the first subcomponent

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and bonding it to the latter by means of an uncured structural adhesive (step (d)); covering the assembly with a vacuum bag (step (e)); performing an autoclave cycle for curing the curable material (step (f)); and withdrawing the assembly from the curing autoclave (step (f)).

Regarding claim 26 of the instant application, claim 1 of the '909 patent does not explicitly state the surface of the tooling is a surface rough enough to promote friction in an amount effective to achieve common thermal expansion. Claim 1 of the '909 patent also does not teach removing the angle pieces/tooling from the composite structure. However, this is implied in the '909 patent and would have been obvious to one having ordinary skill in the art in order to be able to reuse the angle pieces and to not provide unnecessary weight to the completed part. Further, in analogous methods, Holsinger (Figure 2 (150); col. 5, line 10-17) and Morrison et al. (col. 10, lines 1-20) individually disclose enhancing the friction characteristics of the surface of the tooling component. One having ordinary skill would have been motivated to enhance the friction characteristics of the tooling component for the purpose, as taught by Morrison et al., of enhancing attachment of the tooling with the subcomponent (col. 10, lines 9-10). Claims 27-35 are conventional limitations and are taught or suggested by the prior art.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 26-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 26 recites, "inserting between the first and second subcomponents a layer of uncured structural adhesive" (emphasis added). There appears to be insufficient support for this limitation in the original disclosure. The specification appears to provide support for placing the second subcomponent along with the tooling on the first subcomponent and bonding the second subcomponent to the first subcomponent with an uncured structural adhesive, but the recitation that the adhesive is inserted between the subcomponents does not appear to be supported by the specification. This rejection can be overcome by pointing out the location in the specification where support for the current limitation of the claim can be found or by appropriately amending the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 26 and 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cerezo Pancorbo et al. (EP 1134070; published September 19, 2001) in view of Morrison et al. (U.S. Patent 6,733,907; issued May 11, 2004) or Holsinger (U.S. Patent 6,245,275; issued June 12, 2001).

Regarding claims 26 and 28, Cerezo Pancorbo et al. teach a process for manufacturing a monolithic composite structure from a precured and an uncured subcomponent comprising: providing at least a first subcomponent of composite material; providing at least a second subcomponent of composite material; attaching expansion compensating tooling/angle pieces to the second subcomponent; placing the second subcomponent with said tooling on the first subcomponent and bonding it to the latter by means of an uncured structural adhesive; covering the assembly with a vacuum bag; performing an autoclave cycle for curing the curable material; withdrawing the assembly from the curing autoclave (Abstract; paragraphs [0003, 0013, 0014, 0020, 0021, 0031, 0036, and 0038]; claim 1).

Cerezo Pancorbo et al. do not explicitly teach removing the angle pieces/tooling from the composite structure. However, this is implied and suggested in the reference and would have been obvious to one having ordinary skill in the art in order to be able to reuse the angle pieces for subsequent use and to not introduce unnecessary weight to the completed aeronautical wing. Additionally, Cerezo Pancorbo et al. do not explicitly state the surface of the tooling is a surface rough enough to promote friction in an amount effective to achieve common thermal expansion. However, Holsinger (Figure 2 (150); col. 5, line 10-17) and Morrison et al. (col. 10, lines 1-20) individually teach enhancing the friction characteristics of the surface of the tooling component by providing a roughened surface.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to increase the friction characteristics of the surface of the tooling component/profile members taught by Cerezo Pancorbo et al., for the purpose, as taught by Morrison et al. of enhancing attachment of the tooling with the subcomponent (col. 10, lines 9-10).

As to claim 29, the first component taught by Cerezo Pancorbo et al. is an aircraft skin and the second component is a stiffener (paragraphs [0013 and 0014]).

As to claim 30 Cerezo Pancorbo et al. teach the tooling consists of L-shaped metal beams adapted to the geometry of the second component (Figure 2 (4, 4')); paragraph [0020]).

As to claim 31, Holsinger discloses the shape of the tooling may be readily changed to form alternative configurations (col. 3, lines 7-20).

As to claim 32, the metal tooling/angle piece surfaces taught by Cerezo Pancorbo et al. would have necessarily been machined in order to produce the part.

As to claim 33, it is noted that the friction coefficient of rubber is higher than the friction coefficient of steel and that Holsinger employs a rubber surface. It is further noted that grit/sand is a known means in the art of providing a roughened surface, as disclosed by Morrison et al. (col. 10, lines 9-10).

As to claim 34, Cerezo Pancorbo et al. employ first and second composite components (Abstract; claim 1).

As to claim 35, Cerezo Pancorbo et al. employ temperature and pressures within the vacuum bagging and autoclaving step implicitly within recommended ranges in order to produce a viable product (paragraphs [0036-0038]; claim 1). These values would have been readily optimized by the ordinarily skilled artisan.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cerezo Pancorbo et al. (EP 1134070; published September 19, 2001) in view of Morrison et al. (U.S. Patent 6,733,907; issued May 11, 2004) or Holsinger (U.S. Patent 6,245,275; issued June 12, 2001), as applied to claims 26 and 28-35 above, and further in view of Wilden et al. (U.S. Patent 5,242,523).

As to claim 27, Cerezo Pancorbo et al. in view of Morrison et al. or Holsinger teach the method of claim 26 as discussed above, but do not teach using a precured second component. However, in an analogous method, Wilden et al. (col. 4, lines 58-65) teach that either precured or uncured second components may be used.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to utilize precured second components, such as the stiffener/stringer components as taught by Wilden et al. because they are easier and cleaner to handle and are able to provide a support structure immediately with the initial application to the first component.

Claims 26, 27, and 29-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breur et al. (U.S. Patent 6,306,239; issued October 23, 2001) in view of Morrison et al. (U.S. Patent 6,733,907; issued May 11, 2004) or Holsinger (U.S. Patent 6,245,275; issued June 12, 2001).

Regarding claims 26 and 27, Breur et al. teach a process for manufacturing a monolithic composite structure from precured subcomponents comprising: providing at least a first subcomponent of composite material; providing at least a second subcomponent of composite material; attaching expansion compensating tooling/strengthening profile members to the second subcomponent, placing the second subcomponent with said tooling on the first subcomponent and bonding it to the latter by means of an uncured structural adhesive; covering the assembly with a vacuum bag; performing an autoclave cycle for curing the curable material; withdrawing the assembly from the curing autoclave; and removing the tooling to obtain a monolithic composite structure (Abstract; Figure 2 (3) (7); Figure 3; col. 6, lines 9-22; col. 7, lines 4-38; col. 8, lines 13-17). Breur et al. further teach the tooling contains "protruding webs" (col. 7, lines 22-38). Additionally, Holsinger (Figure 2 (150); col. 5, line 10-17) and Morrison et

al. (col. 10, lines 1-20) individually teach enhancing the friction characteristics of the surface of the tooling component by providing a roughened surface.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to actively roughen the surface of the tooling component/profile members taught by Breur et al. in view of the individual teaching of both Holsinger and Morrison et al., for the purpose of more effectively achieving the purpose taught by Breur et al. to prevent sliding or shifting of the tooling (col. 7, lines 24-28) and to enhance attachment of the tooling with the subcomponent, as taught by Morrison et al. (col. 10, lines 9-10).

As to claim 29, the first component taught by Breur et al. is an aircraft skin and the second component is a stiffener (Abstract; col. 1, lines 11-22; col. 5, lines 22-33).

As to claim 30, Breur et al. teach the tooling consists of L-shaped metal beams adapted to the geometry of the second component (col. 7, lines 5-28; Figure 2).

As to claim 31, Holsinger discloses the shape of the tooling may be readily changed to form alternative configurations (col. 3, lines 7-20).

As to claim 32, the metal tooling surface taught by Breur et al. would have necessarily been machined in order to produce the part.

As to claim 33, it is noted that the friction coefficient of rubber is higher than the friction coefficient of steel and that Holsinger employs a rubber surface. It is further noted that grit/sand is a known means in the art of providing a roughened surface, as disclosed by Morrison et al. (col. 10, lines 9-10).

As to claim 34, Breur et al. employ first and second composite components (Abstract).

As to claim 35, Breur et al. n employ temperatures and pressures within the vacuum bagging and autoclaving steps implicitly within recommended ranges in order to produce a viable, high quality, product (col. 7, lines 30-40). These values would have been readily optimized by the ordinarily skilled artisan.

Response to Arguments

Applicant's arguments filed September 14, 2006 have been fully considered but they are not fully persuasive.

Applicant's amendment to the claims, namely new claim 26, clarifies the meaning of the term "rough surface". As such, the rejections under 35 U.S.C. 102(b) over Breur et al. and 35 U.S.C. 103(a) over Cerezo Pancorbo et al. have been withdrawn.

The amendment to the claims does not overcome the rejections under 35 U.S.C. 103(a) over either Breur et al. in view of the secondary references or Cerezo Pancorbo et al. in view of the secondary references as presented in the office action above.

Conclusion

All claims are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JW

Jeff Wollschlager
Examiner
Art Unit 1732

November 15, 2006

CL
CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER

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